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10/795,850	03/08/2004	Tomohiro Oshiyama	KOT-0091	1242

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/795,850
Filing Date: March 08, 2004
Appellant(s): OSHIYAMA ET AL.

Peter R. Hagerty
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 28, 2008 appealing from the Office action mailed January 28, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

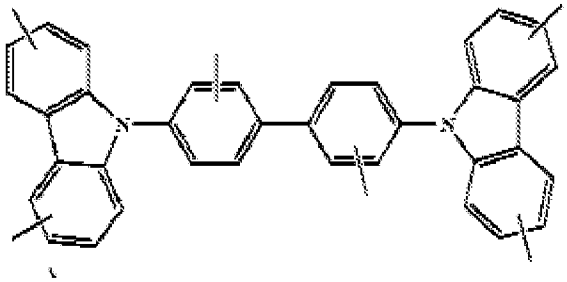
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 and 9- 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al., U.S. Patent Number 6,902,830.

Thompson discloses organic light emitting devices wherein the emissive layer comprises a host material and an emissive molecule (see abstract and column 6, lines 30-68). Additionally, the reference discloses that the emissive molecule can be selected from the group of phosphorescent organometallic complexes such as fac tris(2-phenylpyridine) iridium. Column 32, lines 42-68 of the reference disclose molecules that fall within the scope of the host material. The reference discloses molecules such as



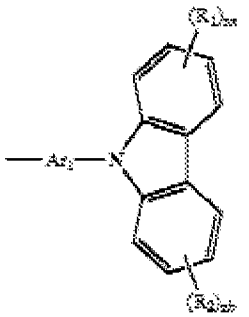
wherein a line segment denotes possible substititution at any available carbon atom or atoms of the indicated ring by alkyl or aryl groups (see column 32, line 40-column 33, line 33). The Thompson reference reads on the present claims when R_1 and R_2 are alkyl or aryl; na and nb are both 1 and Ar_1 represents a phenylene group substituted with an alkyl or aryl group. Thompson does not specifically disclose that the substituent on the phenylene group is substituted at the ortho-position to the chemical bond. Thompson does disclose possible substitution at any available carbon atom by alkyl or aryl groups. Substitution position on the compound affects HOMO and LUMO energies. Therefore, it would have been obvious to one of ordinary skill in the art to have the substituent present at the ortho-position in order to control current-voltage characteristics and the lifetime of the device.

(10) Response to Argument

Appellant argues that the Thompson reference fails to teach or suggest that the host compounds have reorganization energy of from more than 0 to 0.50 eV. The present claims recite a host compound with the formula

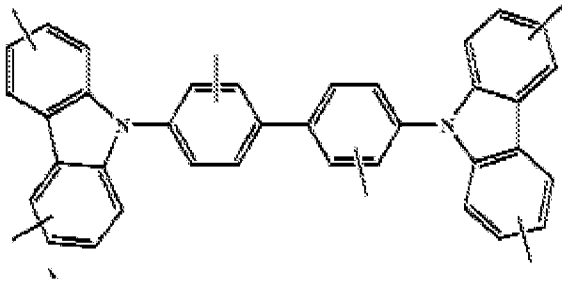
$$X_1\text{-}(A_1)_n$$

wherein X_1 represents a chemical bond; n represents an integer of 2; and A_1 is represented by



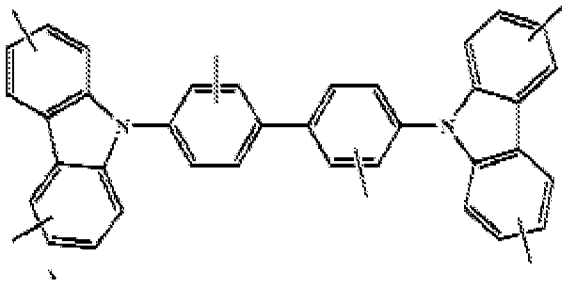
with Ar_1 representing a substituted phenylene group having a substituent in the ortho position relative to the chemical bond; and R_1 and R_2 represent a hydrogen atom or a substituent; and na and nb represent an integer from 1 to 4.

The Thompson reference discloses an organic electroluminescent device comprising a host compound with the formula



. The host compound of the Thompson reference reads on the present claims when n is 2; na and nb are 1; R_1 and R_2 are a substituent. Thompson discloses in column 33, lines 30-33 that the line segments denote possible substitution at any available carbon atom or atoms of the indicated ring by alkyl or aryl groups. There are only two possible substitutions on the phenylene group that is represented by Ar_1. The only two

substitutions can be ortho and meta positions on the phenylene group. Appellant claims that the substituent can be any substituent, which is very broad. The Thompson reference discloses that the ortho substitution is a possible substitution for the host compound. Appellant argues that the Thompson reference discloses that an additional preferred molecule is (CBP) (column 33, lines 34-35). Appellant argues that CBP is the only carbazole species disclosed by Thompson as a specific example of a suitable carbazole compound. It is disclosed in column 32, lines 41-68 and column 33, lines 30-33 a host compound (as listed above) that reads on the present compounds. Thompson discloses that



falls within the scope of the host compounds required by Thompson. Appellant argues that CBP used as host compound has a reorganization energy of 0.56 eV, which falls outside of the scope of the Appellants claimed range from more than 0 to 0.50 eV. As claimed, the range is from **more than 0 to 0.50 eV.** Since CBP has a reorganization energy of 0.56 eV, it reads on the host compound as required by the present claims. Appellant presents results of the host compound TCBP1, which has methyl substituents at the ortho positions of the phenylene group. Thompson discloses that that substituents on the phenylene group can be present in either the ortho or meta position and that the substituent can be an alkyl group, which includes methyl. The present claims do not narrow the substituent. Thompson encompasses the substituents required by the presents and the examples in the present disclosure. Appellant argues that the

Thompson reference does not provide for reorganization energies. Thompson has the same host compound as required by the present claims. Therefore, it would be expected that the reorganization energy of the host compound of the Thompson reference be the same as the reorganization energy as the host compound of the present claims. Appellant has provided a declaration as noted in Evidence Appendix IX. Comparative test were carried out on compound C with the substituent (methyl) at the meta position. Compound C is encompassed by the Thompson reference when the substituent is located at the meta position. It was found by Appellant's declaration that the reorganization energy of compound C is 0.58 eV. The results provided by Appellent for compound C read on the present claims. The present claims require that the reorganization energy is more than 0 to 0.50 eV, which would include 0.58 eV. Appellant has provided a test on TCBP1 and found that the TCBP has a reorganization energy of 0.41 eV. Appellant performed a test on TCBP1, which is encompassed by the Thompson reference. Appellant argues that one ordinarily skilled in the art would have to make a number of selections among thousands of technical possibilities. There are only two positions for substitution on the phenylene group in the Thompson reference - ortho or meta. The present claims are very broad in that they require **a substituent.** Thompson is much narrower in that the substituent is an alkyl group or aryl group.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Camie S. Thompson/

Patent Examiner

Conferees:

/Milton I. Cano/

Supervisory Patent Examiner, Art Unit 1794

/Gregory L Mills/

Supervisory Patent Examiner, Art Unit 1700